

**REMARKS**

Applicants respectfully traverse and request reconsideration of the claims.

**35 U.S.C. § 102(e) Rejections**

Claims 1, 2, 3, 5 through 9, 15 through 18, 20, 21, 22 and 25 stand rejected under 35 U.S.C. § 102(b) based on U.S. Published Patent Application No. 2002/0098812 (Sourour). However, contrary to the assertion in the Office Action, the cited referrals do not make obvious the claims of the present applications.

**Independent Claims 1, 15 and 22**

Sourour describes unsynchronized phase change compensation in an amplifier as a result of switching in an amplifier module. (Sourour, para. 18 lines 4–8, Fig. 2.) Sourour subtracts, in an unsynchronized manner, a step change amount from a baseband input signal to produce a phase-compensated signal when the amplifier module switches in. (Sourour, para. 23.) The amount of phase shift as a result of switching in the amplifier module is represented as a step change amount due to a fixed phase shift in the amount of  $\phi_1$  and  $\phi_2$ . (Sourour, para. 18 lines 9–16, para. 24 lines 5–10, Fig. 2.) Therefore, rather than receive timing data to switch the amplifier module and receive the step change amount synchronously at a predetermined relative time, Sourour receives the step change amount without synchronously switching the amplifier module.

In contrast, the claims recite, among other things, synchronously receiving phase shift compensation and timing data and receiving a control signal at a predefined relative time. Therefore, the predefined relative time indicates the relative time for an amplifier to receive the control signal, and a phase shifter to receive the phase shift compensation and timing data module in a synchronized manner. Among other advantages, the claimed predefined relative

**BEST AVAILABLE COPY**

time allows the phase-shifted signal to propagate to the amplifier to synchronously reduce phase discontinuity in the amplifier. (Application, paras. 23, 24.) The timing data and the claimed predefined relative time facilitates the cancellation of the phase shift at all times. *Id.* If the phase compensation is not optimally synchronized with the initiation of the phase change in the amplifier at the proper relative time, a large transient response may occur, resulting in an increased, rather than reduced, phase discontinuity. (Application, para. 28.)

Further, the phase compensation taught by Sourour is merely a function of the amount of expected phase shift and fails to include any timing data with respect to the expected phase shift. Sourour teaches switching the control logic 40 in the amplifier module 16 and the control logic 32 in phase compensator 12 at the same time and therefore without a predefined relative time such that the compensation phase shift compensates for the predicted phase change to produce an RF output signal with reduced phase discontinuity as taught in the Applicant's background of the invention. (Application, para. 7.) Sourour is silent as to a predefined relative time such that the compensation phase shift compensates for the predicted phase change to produce an RF output signal with reduced phase discontinuity. Consequently, Sourour as cited fails to teach each and every element of claim 1 and, therefore Sourour as cited fails to anticipate claim 1. Accordingly, withdrawal of the rejection and allowance of the claim is respectfully requested.

With regard to independent claim 15, the above remarks with respect to claim 1 are repeated. The Office Action equates the modulator 14 of Sourour with the claimed pulse shaper. However, Sourour states that the modulator 14 modulates a carrier signal responsive to baseband information. (Sourour, para. 14.) Therefore, rather than shape the input data, the modulator 14 merely modulates the baseband information onto a carrier signal. Additionally, a carrier signal would not shape the baseband data but rather would facilitate up-conversion to a carrier signal

frequency. Since Sourour fails to teach the pulse shaper, Sourour fails to teach each and every element of claim 15. A corresponding showing is requested. For at least these reasons, Sourour as cited fails to anticipate claim 15.

With regard to independent claim 22, the above remarks with respect to claim 1 are similarly applicable. For at least the reasons above, Sourour as cited fails to teach each and every element of claim 22. Therefore, Sourour as cited fails to anticipate claim 22 and the claim is allowable.

**Claims 2, 3, 5-9, 16-18, 20-21 and 25**

With regard to dependent claims 2 and 21, the above remarks with respect to claim 1 are similarly applicable. The Office Action asserts that a phase compensation and timing control circuit is inherent. For at least the reasons stated above, Sourour is silent as to a predefined relative time such that the compensation phase shift compensates for the predicted phase change to produce an RF output signal with reduced phase discontinuity. Therefore, Sourour fails to teach switching the amplifier module and receiving the compensation signal synchronously at a predefined relative time. Since Sourour is silent as to a predefined relative time such that the compensation phase shift compensates for the predicted phase change to produce an RF output signal with reduced phase discontinuity Sourour necessarily fails to teach a phase compensation and timing control circuit. Consequently, the Examiner's assertion of inherency is respectfully traversed and a showing is requested pursuant to M.P.E.P. 2112 (IV) and 2144.03(C) . Therefore, Sourour fails to teach each and every element as arranged in claims 2 and 21. Consequently, Sourour as cited fails to anticipate claims 2 and 21.

Regarding the remaining claims, Applicants repeat the above relevant remarks, including the relevant remarks from previous responses. In addition, Applicant also submits that these claims depend from the independent claims, and provide further patentable subject matter in

view thereof. Further, it is submitted that these claims are allowable, not merely as being dependent upon an allowable base claim, but rather as containing still further patentable subject matter in view of the prior art of record. Therefore, reconsideration and withdrawal of the present rejections is respectfully requested.

### **35 U.S.C. § 103 Rejections**

Claims 10, 12 through 14 and 23 stand rejected under 35 U.S.C. § 103(a) based on Sourour in view of U.S. Patent No. 5,590,155 (Yasuda).

### **Independent Claim 10**

Applicants repeat the above relevant remarks regarding Claim 1. According to the Office Action, Sourour fails to describe a pulse shaper operatively responsive to input data to provide shaped input data. Nevertheless, the Office Action asserts Yasuda teaches this. However, Yasuda instead teaches that the waveform forming section 13, 52 eliminates intercode interference. Therefore, rather than compensate for the predicted phase change in the amplifier, the waveform forming section instead eliminates intercode interference. Consequently, the waveform forming section of Yasuda fails, among other things, to provide the claimed shaped input data to compensate for the predicted phase change in the amplifier.

Further, Yasuda instead teaches that, rather than the waveform forming section 13 receiving input data, a data-holding circuit 12 instead receives the input data. The data-holding circuit 12 functions as a delay element and therefore modifies the input data. (Yasuda, col. 6 lines 19–22.) As a result, Yasuda, among other things, fails to make known or obvious the elements acknowledged by the examiner as missing from Sourour. If the rejection is maintained, Applicants respectfully request a showing as to the column and line number of the specific teaching of the reference being relied upon by the Examiner as allegedly making known or obvious the claimed subject matter.

Also, the combination of Sourour and Yasuda, to the extent they can be combined, would result in eliminating intercode interference in an unsynchronized phase compensation circuit. For the reasons stated above, the combination of Sourour and Yasuda fails to teach, among other things, a pulse shaper as arranged in the claims. As a result, the combination of Sourour and Yasuda fails to describe each and every element as arranged in the claims. The combination of As a result, the combination of Sourour and Yasuda fails to establish a prima facie case of obviousness and therefore does not make obvious claim 1. Therefore, for at least the reasons stated above, it is submitted that the present rejection is improper and should be withdrawn. Reconsideration and withdrawal of the present rejections is requested.

**Dependent Claims 12, 13 and 14**

Applicants repeat the above relevant remarks regarding Claims 1 and 10. In addition, Applicant also submits that these claims depend from the independent claims, and provide further patentable subject matter in view thereof. Further, it is submitted that these claims are allowable, not merely as being dependent upon an allowable base claim, but rather as containing patentable subject matter in view of the prior art of record. Therefore, reconsideration and withdrawal of the present rejections is respectfully requested.

With regard to claim 13, the Office Action equates the claimed in-phase digital-to-analog converter with the DAC 108 in Fig. 6 of Sourour. However, the DAC 108 receives analog speech signals from a microphone 131. (Sourour, para. 35, Fig. 6.) In contrast, claim 13 recites an in-phase digital-to-analog converter operatively responsive to the phase-shifted in-phase data to produce a phase-shifted in-phase signal. Among other things, rather than receive the phase-shifted in-phase data, the DAC 108 receives analog speech. Sourour explicitly teaches that DAC 108 receives an entirely different signal from the claimed phase-shifted in-phase data, and further produces an entirely different signal from the phase-shifted in-phase signal. As a result, the

combination of Sourour and Yasuda fails to teach each and every element as arranged in the claims, and therefore, fails to establish a prima facie case of obviousness. Therefore, for at least the reasons stated above, it is submitted that the present rejection is improper and should be withdrawn.

Claim 19 stands rejected under 35 U.S.C. § 103(a) based on Sourour in view of Yasuda and further in view of U.S. Patent No. 6,266,321 (Pehkonen). Applicants repeat the above relevant remarks regarding Claim 1. According to the Office Action, Pehkonen as cited teaches "wherein the phase shifted signal includes a plurality of constellation points wherein at least one of the plurality of constellation points is replaced with a zero constellation value." However, Pehkonen as cited explicitly teaches coordinates of non zero constellation points, such as  $(1 + G, 1 - G)$ , and so on. (Pehkonen, col. 6 lines 13-35.) None of the constellation points shown in Fig. 3 as shown falls to a zero constellation value. Further, rather than replace one of the constellation points with a zero constellation value, Pehkonen explicitly teaches non zero constellation points as stated above. A corresponding showing is requested. As a result, the combination of Sourour, Yasuda and Pehkonen fails to teach, among other things, at least one of the plurality of constellation points is replaced with a zero constellation value, and consequently fails to establish a prima facie case of obviousness. Therefore, for at least the reasons stated above, it is submitted that the present rejection is improper and should be withdrawn.

**CONCLUSION**

Accordingly, Applicants respectfully submit that the claims are in condition for allowance, and request that an early Notice of Allowance be issued in this application. The Examiner is invited to contact the below-listed attorney if the Examiner believes that a telephone conference will advance the prosecution of this application.

Respectfully submitted,

By: 

Themi Anagnostis

Registration No. 47,388

Date: November 23, 2004

Vedder, Price, Kaufman & Kammholz, P.C.  
222 North LaSalle Street  
Chicago, Illinois 60601  
Phone: (312) 609-7599  
Fax: (312) 609-5005

**This Page is Inserted by IFW Indexing and Scanning  
Operations and is not part of the Official Record**

**BEST AVAILABLE IMAGES**

Defective images within this document are accurate representations of the original documents submitted by the applicant.

Defects in the images include but are not limited to the items checked:

- ☐ **BLACK BORDERS**
- ☐ **IMAGE CUT OFF AT TOP, BOTTOM OR SIDES**
- ☐ **FADED TEXT OR DRAWING**
- ☐ **BLURRED OR ILLEGIBLE TEXT OR DRAWING**
- ☐ **SKewed/SLANTED IMAGES**
- ☐ **COLOR OR BLACK AND WHITE PHOTOGRAPHS**
- ☐ **GRAY SCALE DOCUMENTS**
- ☐ **LINES OR MARKS ON ORIGINAL DOCUMENT**
- ☐ **REFERENCE(S) OR EXHIBIT(S) SUBMITTED ARE POOR QUALITY**
- ☐ **OTHER:** \_\_\_\_\_

**IMAGES ARE BEST AVAILABLE COPY.**

**As rescanning these documents will not correct the image problems checked, please do not report these problems to the IFW Image Problem Mailbox.**